DOCUMENT RESUME

ED 251 446 SP 025 512

AUTHOR Doyle, Walter
TITLE Design for Analyzing Classroom Activities. R&D Report No. 6130.
INSTITUTION Texas Univ., Austin. Research and Development Center for Teacher Education.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE 15 Apr 82
GRANT OB-NIE-G-80-0116-P2
NOTE 81p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Class Activities; Class Organization; Classroom Environment; Classroom Research; *Classroom Techniques; *Discipline; Elementary Secondary Education; *Research Methodology; Student Behavior; *Teacher Behavior; Teacher Effectiveness; Teaching Styles; *Time Management

ABSTRACT

A design for analyzing the narrative records obtained in four studies examined the character of classroom activities and how they are managed by teachers. Focus was on controlling classroom behaviors, classroom rules, handling of disruptive or inappropriate behavior, instructional leadership, classroom organization, and student engagement. Approximately 2,775 narratives were obtained, consisting of fairly detailed accounts of management-related behaviors during class sessions in elementary and junior high school classes. In addition, observers kept time logs on student engagement and, at the end of the year, teachers were interviewed concerning student achievement. To analyze this body of information, 31 junior high and 15 elementary teachers were selected as a sample for a series of planned comparisons around themes that separate task and performance dimensions contained in the descriptions. Four levels of analysis were defined to move systematically from the accounts of classroom behavior in the narrative records to progressively more general propositions about what teachers do to establish order in the classroom, and what proficient teachers are likely to know about classrooms and how this knowledge is organized for use in accomplishing lessons. The information gained from this type of analysis is viewed as a major contribution to defining the knowledge base for classroom practice and, thus, the content of teacher education and staff development programs. (Author/JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

Design for Analyzing Classroom Activities

Walter Doyle

R & D Center for Teacher Education
The University of Texas at Austin

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

O. Bown

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

To order additional copies of this report or a catalog of publications, contact Communication Services, Research & Development Center for Teacher Education, The University of Texas at Austin, Education Annex 3.203, Austin, Texas 78712.

The project presented or reported herein was performed pursuant to a grant from the National Institute of Education, Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the National Institute of Education, and no official endorsement by the National Institute of Education should be inferred.

Design for Analyzing Classroom Activities

Walter Doyle

R & D Center for Teacher Education
The University of Texas at Austin

(R&D Rep. 6130)

Research and Development Center for Teacher Education
The University of Texas at Austin

April 15, 1982

This study was supported in part by the National Institute of Education, Contract OB-NIE-G-80-0116, P2, Classroom Organization and Effective Teaching Project. The opinions expressed herein do not necessarily reflect the position or policy of the NIE and no official endorsement by that office should be inferred. Requests for reprints should be addressed to: Communication Services, R&DCTE, Education Annex 3.203, The University of Texas at Austin, Austin, Texas 78712.

Abstract

This document contains a description of a design for analyzing the narrative records obtained in four studies conducted by the staff of the Classroom Organization and Effective Teaching (COET) Project. These narratives are a rich resource of information about the character of classroom activities and how these activities are managed by teachers of different skills working in a variety of situations. To analyze this corpus of narratives 31 junior high and 15 elementary teachers have been selected as a core sample for a series of planned comparisons around themes that separate task and performance dimensions contained in the descriptions. Teachers were selected who differed on quantitative indicators of management success but who worked with similar populations of students. Four levels of analysis have been defined to move systematically from the running accounts of classroom behavior in the narrative records to progressively more general propositions about what teachers do to establish order in classrooms and what proficient teachers are likely to know about classrooms and how this knowledge is organized for use in accomplishing lessons. The information gained from this type of analysis is viewed as a major contribution to defining the knowledge base for classroom practice and, thus, the content of teacher education and staff development programs.

BEST COPY AVAILABLE

This document presents a design for analyzing the narrative accounts of classroom events contained in the COET management data. Two questions are addressed:

(1) What can be learned from these data?

(2) How can this knowledge be generated?

1. Conceptual Framework

The Data Set

The data set consists of a large amount of quantitative and qualitative information about 292 elementary and secondary classrooms. These data were obtained in four studies operated over the past 5 years by the COET staff.

The Classroom Organization Study (COS) was conducted in 1977-78 in 27 elementary school classrooms (see Evertson, Anderson, Emmer, & Clements, Note 1). Each teacher was observed eight to nine times throughout the year with special attention to class sessions at the beginning of the year. Data for the Junior High Classroom Organization Study (JHCOS) was gathered during the 1978-79 school year (see Evertson, Emmer, & Clements, Note 2). The sample consisted of 25 English and 26 math teachers, each of whom was observed in two classes for a total of approximately 28 observations per teacher across the year. Again, special emphasis was placed on the beginning of the year. The Classroom Management Improvement Study (CMIS) was conducted during the 1980-81 school year as an experimental study with 23 teachers in the treatment group and 18 in the control group (see Emmer, Sanford, Evertson, Clements, & Martin, Note 3). The treatment was based on the manual

constructed from findings of previous research on management. Special attention in the manual was given to procedures for managing the beginning of the year. Observations were conducted from August to mid-February with a concentration on the first 8 weeks of school. Finally, the Junior High Management Improvement Study (JMIS) is an experiment being conducted during the 1981-82 school year (see Emmer, Sanford, & Clements, Note 5). The sample consists of 61 teachers, each of whom is being observed in two classes. Observations have concentrated on the first 8 weeks of school with a follow-up in January and February.

In these studies, several types of information were gathered. Of primary interest for this design are the focused narrative records (approximately 2775 in all) which consist of fairly detailed running accounts of management related behaviors during class sessions (approximately 2 1/2 hours each in elementary classes and 55 minutes in junior high classes). A set of structuring questions was used to guide observers. These questions directed attention to management variables such as leadership in controlling classroom behavior, instructional leadership, systems for handling work, student concerns, physical arrangement of the room, constraints on the teachers, visible students, peer interactions, and personal mannerisms of the teacher. In addition to the narrative records, observers kept time logs and completed ratings of student engagement at random intervals during class sessions. They also rated teachers on several dimensions or components after each observation. Finally, teachers were interviewed at the end of the year and data concerning student achievement was obtained.

In sum, there is a large number of teachers and classrooms in the total sample. Although it is not necessary or feasible to analyze all of

these cases, the size of the corpus of narratives allows for multiple comparisons among teachers and classrooms and provides a context for interpreting single cases as well as comparisons among cases. In addition, a large amount of information is available concerning each case, including student engagement ratings and observer ratings of teachers for each observation, time logs, and data about student achievment. These data can be used to select cases for analysis and to connect the results of qualitative analyses to indicators of effectiveness in management and in instruction.

At this time I have sampled narratives from each study to gain an initial impression of what can be learned from these records. Overall the narratives appear to be of high quality, although there is some variation across observers and across studies. The narratives obtained in the JHCOS and CMIS projects are especially rich in detail and thorough, often consisting of extended accounts of 25 or more typewritten pages. For the most part, the narratives are reasonably complete representations of the behavior stream (Barker, 1968; Gump, 1967) that contain. (a) "scene coordinates" (Burnett, 1973 p. 293), i.e., descriptions of participants, physical arrangements, objects and props, and time, and (b) running accounts of action within these scenes.

At the same time, there are some limitations in the records. Aside from the problems of variation in focus and quality across observers and studies, little attention was given to the content being taught. In addition, not much information is available concerning the students in the classes, except for those who were visible to the observers either because they disrupted activities, acted inappropriately, or participated publicly in recitations or discussions. Finally, recordings of what

teachers and students actually said are approximate and not consistently specific enough to warrant a refined analysis of classroom language. In other words, there is some lack of specific detail in the narratives, especially about matters not directly related to management at the beginning of the year.

One final problem with the COET narratives involves the relationship between the classroom events depicted in the records and the analyst who will attempt to describe and interpret these events. Because the narratives were written by multiple observers across a 5-year period, the records are fixed and an analyst is somewhat removed from the actual events which occurred in the classes. In addition, there is no opportunity to interact with the teachers in the sample concerning their perceptions of events in their classrooms. (Although interviews are available, they have limited utility because they were conducted largely as end-of-the-year summaries.) This "distancing" between the events and the analyst is not typical of qualitative studies. More commonly the person or persons analyzing the data have been directly involved in gathering them, and it is often difficult to separate the observation and the analysis phases of such studies. This remoteness from the actual events in the classes places restrictions on the amount of specificity that is likely to be achieved in the analysis and may, in some instances, require that classes be excluded from the analysis because a clear picture of events cannot be gained. At the same time, the large number of cases in the corpus helps to compensate for the distance between the analyst and any single case.

Uses of the Narrative Records

To date the emphasis in the COET Project has been primarily, but not exclusively, on identifying indicators of management effectiveness, using for this purpose a process-product paradigm. The principal focus, in other words, has been on the question on what effective managers do. For this type of analysis, the student engagement ratings and the component ratings, as well as the achievement data, have been especially useful. Within this analytical framework, the narratives have been utilized in three major ways. First, they have been read and rated to provide additional variables or additional measures of variables for process-product analyses. Second, excerpts from the narratives have been used to illustrate process-product findings or sometimes to "explain" particular findings that were either distinctive or surprising. This illustrative case material has been incorporated into research reports and into the manuals that have been used in the experimental studies (see Evertson, Emmer, Clements, Sanford, Worsham, & Williams, Note 5; Emmer, Evertson, Sanford, Clements, & Worsham, Note 6). Finally, the narratives have been utilized to conduct specialized studies of how teachers manage accountablity for work (Worsham, Note 7) and how they handle variations in class composition (Evertson, 1982; Evertson, Sanford, & Emmer, 1981; Sanford & Evertson, Note 8).

Conceptually, the work of the COET Project has focused primarily on classroom rules, the handling of inappropriate and disruptive behavior, and certain instructional variables such as organization, enthusiasm, and clarity. The emphasis on rules and on misbehavior is consistent with the concentration on management at the beginning of the year, a distinctive feature of the COET management studies and certainly an important time

for achieving classroom order. Underlying this dominant emphasis has been a concern for activities, i.e., ways in which teachers organize students for working. This concern for activities has been especially apparent in the instructions that guided observers in the writing of narrative records and in completing student engagement ratings and time logs. Observers were typically asked to use predetermined categories to code class formats or the activities occurring when ratings or time records were made. In addition, they were directed to record the beginning and ending of transitions.

At the level of analysis, the concern for activities has been less clear. In most cases data analysis has focused on variables from engagement ratings, component ratings, and reader ratings of the narratives. When the activity categories have been included in reports, the emphasis has tended to be on quantitative dimensions, such as the time spent in various activity categories. These quantitative summaries of activities have not consistently differentiated between more and less effective managers, and they have often raised more questions than they have answered when they have been used to explore the effects of class composition on teaching processes. In Table 1, for example, correlations between time spent using various activities and the entering ability of classes in mathematics and English are presented (this table was provided by Julie Sanford).

The analysis indicates that math teachers tend to spend more time in whole-class instructions and in having students check and grade papers in higher ability classes and more time in seatwork in lower ability classes. The same is not true in English, however. In these classes the

only effect for entering ability is that more dead time occurs in lower ability classes. Why these activity "policies" exist in these classes and why there are differences between math and English cannot be determined from these data. Nonetheless, the analysis does suggest some possibilities for further inquiry into the ways in which teachers manage events in these two settings.

Two analyses have been conducted which have gone beyond quantitative summaries of activity categories to examine the content of the narratives. The first analysis consisted of case studies of how three junior high teachers began the year in a low SES school (Sanford & Evertson, Note 9). Narratives for the first 3 weeks were summarized by the investigators in an attempt to account for the differences in quantitative indicators of management success. The time spent in various activities on the first day was calculated for the three teachers. In addition, the narrative summaries for the first 3 weeks were examined in terms of differences among the teachers in eight areas: teaching rules and procedures, enforcement of rules and feedback, clarity, knowledge of students, accountability for work, time use and class routines, behavioral standards, and whole-class leadership. The second analysis focused on differences in instructional activities in higher and lower achieving junior high English and math classes (Evertson, 1982). In this paper some attention was given to the general sequence of activities and the character of events during transitions and during the middle of activities for six math and seven English teachers. Taken together, these two papers suggest that much can be learned about classroom effectiveness from a qualitative analysis of how different teachers

manage similar situations and how different settings affect teaching performance.

In sum, there is a good deal of information about activities in the narratives because of the instructions given to observers. At the same time, much of this information about activities has not been studied extensively.

Rationale for Analyzing Activities

The design being proposed here centers on the analysis of activities as fundamental units of classroom life. In this context, an activity is defined as a bounded segment of classroom time during which students are organized for working in a distinctive or identifiable pattern. Activities are commonly labeled by seating arrangements (e.g., seatwork, small group discussions, whole-class presentations, etc.) or by content (e.g., art, spelling, vocabulary, terms which are often associated with particular arrangements of students). Other key dimensions of an activity are duration, the physical space in which working occurs, the type and the number of students, the props and resources used, and the expected behavior of students and the teacher. Activities are also "interactionally constituted" (Erickson & Shultz, 1981, p. 148), that is, the way in which an activity is carried out on a particular occasion is a joint production of student and teacher interpretations and actions. To study activities, then, is to study how classroom events are organized and accomplished.

A focus on activities was selected for this design for two basic reasons. First, an activity focus makes good use of the corpus of narratives. There is a large amount of information about activities in the narratives and, with the aid of the time logs, it is possible to

segment the narratives into activity units and describe the general character of these units and how they were carried out in the classrooms. Second, at a more substantive level, a study of activities is essential for understanding what needs to be done in order to accomplish events in classroom environments. As Kounin's (1970) work suggested, specific management acts such as desists, directives, and interventions, need to be understood as elements in a system for managing groups of students. And activities, by definition, represent ways of organizing and directing students in classrooms. Indeed, it can be argued that activities carry the burden of order in classrooms and that teachers actually manage activities rather than the students (Doyle, 1980).

From this perspective, a study of activities provides a way of mapping the practical knowledge teachers need to establish conditions of effective instruction in classrooms. Such practical knowledge includes, but is certainly not limited to, the findings of process-product studies of teaching effectiveness. A process-product analysis yields information about the practices effective teachers tend to use, such as whole-class presentations, the teaching of rules at the beginning of the year, monitoring of seatwork, etc. In a sense this is procedural knowledge about teaching, but the emphasis is on which practices to use to achieve certain outcomes rather than on how to use these practices under classroom conditions. Moreover, knowledge about how practices are used is often lost in process-product analyses because data are aggregated across individual sessions to produce scores for statistical analyses. As a result of this practice, process-product research generates statements about the characteristics of classes taught by effective teachers, but

little information about how these characteristics came to be there in the first place.

Knowledge about effective practices only partially defines the knowledge base for teaching. In addition to knowing which instructional practices to use, teachers must know how to arrange students, allocate time and resources, and pace classroom events. It is here that a qualitative analysis of classroom activities is particularly useful. By tracing how a large number of teachers in a variety of classes establish and maintain classroom activities, it is possible to formulate propositions about the likely configuration of events in classrooms and thus to specify more fully what needs to be known to establish conditions of effective teaching. Such an analysis can, for example, generate information about <u>how</u> rules are taught rather than simply <u>that</u> rules are taught. Procedural information of this type would seem to be an essential ingredient in the knowledge base for classroom practice and a fundamental component of the content of teacher education (see Doyle, 1981).

In studying how conditions of effective instruction are established, it is useful to focus on teacher thinking rather than simply on behavior. Such an approach is suitable in part because one of the essential functions of teaching is making decisions about how to create effective instruction in the face of the special circumstances and immediate occurrences which define a given situation. In addition, framing the analysis in terms of the classroom knowledge teachers use in planning and decision-making makes the results of the inquiry more immediately applicable to teacher education.

(It is important to emphasize that the present design is not considered to be a study of teacher decision-making. The focus, rather, is on the content of classroom knowledge and how this knowledge is organized for use. No attempt will be made to specify what decisions teachers actually make or the processes they use in making these decisions.)

The nature and benefits of a focus on teacher thinking can be clarified by a brief review of research and concepts in this area. One major finding of this research is that teacher cognition is organized around the task of managing activities (Clark & Yinger, 1979; Doyle, 1979; Shavelson & Stern, 1981). The activity, in other words, is the fundamental unit of teacher thinking. An analysis of what teachers know about activities and how this knowledge is organized for use--what Shavelson and Stern (1981, p. 481) have called the "scripts teachers have for planning activities"--is likely to provide, then, a reasonably complete picture of classroom knowledge.

There are, of course, several approaches which can be taken to the study of the content of teacher thinking. Many of these approaches involve teacher self-reports of the cognitive processes they use in planning and decision-making. An alternative framework utilized in this design combines perspectives from cognitive psychology and from ethnography. At one level, such an analysis involves an attempt to model a task environment as a way of gaining insight into the cognitive processes that are used to accomplish a task (see Doyle, 1979; Laboratory of Comparative Human Cognition, 1978). As Dawes (1975, p. 121) has observed: "The model of the task enables us to understand the task requirement--i.e., to answer questions about how the task is successfully

completed. Understanding these task requirements, in turn, yields an understanding of the subject who performs in a more or less successful manner." From this cognitive perspective, the activities a teacher uses in a classroom are viewed as solutions to the problem of maintaining order in classrooms. A study of these "solution strategies" in operation is then seen as a way of defining the character of classroom demands as well as what teachers know about achieving order in these environments.

At a second level, activities can be studied as natural units of social cognition. Here the analysis focuses on the inferences and decisions made in working out or accomplishing an activity as it is being used in a classroom. The general premise of this type of analysis is that occasions are structured into reasonably identifiable units or contexts (Burnett, 1973; Erickson & Shultz, 1981). These contexts, in turn, give meaning to instances experienced from moment to moment. It is further argued that "processes of interactional inference or social cognition are similarly organized" (Erickson & Shultz, 1981, p. 151), i.e., activities "are likely to be behavioral entities that have significance and meaning in the minds of members of a culture" (Burnett, 1973, p. 294). Thus,

> From an analysis of the structure of their doings, by identifying differences in the texture of their activity across time and by specifying the alternative choices that are culturally appropriate at the points of change in texture, the analyst can describe the inferences which participants make in producing these social occasions. Empirically derived models of the organization of interactional performance with emphasis on the principal parts of occasions and the junctures between them are thus the first step toward developing models of the social competence of interactional participants. (Erickson & Shultz, 1981, p. 151-152)

The guiding metaphor for this analysis is the notion of schema or script (Anderson, 1977; Schank & Abelson, 1977). A schema or a script--the latter term is more commonly used to define the basic unit of social cognition--is an abstract propositional network that people use in constructing cognitive representations of experience, i.e., in comprehending passages or episodes. Such networks structure information in the form of abstract slots or variables into which specific objects, actions, or events can be instantiated. Once a schema has been selected and the variables instantiated, comprehension of the experience takes place. In other words,

> Comprehension can be considered to consist of selecting schemata and variable bindings that will "account for" the material to be comprehended, and then verifying that those schemata do indeed account for it. We say that a schema "accounts for" a situation whenever that situation can be interpreted as an instance of the concept the schema represents. (Rumelhart & Ortony, 1977, p. 111).

It is assumed in this design that the knowledge teachers have of classrooms is organized and used in this manner to (a) "account for" events in a particular situation, (b) select and arrange activities, and (c) monitor and adjust activities as they are being carried out in a classroom. Access to the content of these knowledge structures should, in turn, be a valuable resource for helping teachers achieve intended effects in classroom environments.

Some tentative formal outlines of teacher information-processing have already been proposed (see Doyle, 1979; Shavelson & Stern, 1981; Yinger, 1981). Such models combine two elements: (1) routine or automatized patterns established by repeated use of similar actions sequences in familiar circumstances; and (2) conscious processing at specific decision points occasioned by novel events or by "trouble" in established patterns. These outlines provide a useful perspective on how teachers think as they go about the process of planning for classes and interacting with students. But these outlines lack specific content regarding what teachers know about classroom events and the consequences of these events for solving the problem of order. The analysis proposed here is designed to fill in this content by mapping more fully what teachers know about specific activities and how this knowledge is organized for use. In addition, because the relative success in management and instruction is known about the teachers in the sample, it will be possible to describe what effective teachers know about classrooms and how they use this knowledge for planning and decision-making.

Of the two levels described above the analysis of activities as solution strategies is likely to be more suited to the broad focus which

characterizes the COET narratives. Given the lack of specificity in the narratives, an analysis of activities as units of social cognition will be limited to "middle range" propositions. A more molecular analysis of how activities are accomplished on a moment-to-moment basis requires a considerably more complete record of interaction (see, e.g., Green & Harker, in press).

In summary, the COET narratives are a rich resource of information about the character of classroom activities and how these activities are managed by teachers of different skills working in a variety of situations. A careful mapping of these activity systems will provide propositional knowledge about how activities are formed and sustained under classroom conditions. This information about activity systems and their management will, in turn, establish a base for constructing models of what teachers know about classrooms and how this knowledge is organized for use. Such integrated models of classroom knowledge would seem to be especially important contributions to the knowledge base for teaching practice.

2. Method

The central problem of this analysis is to move systematically from the concrete and particularistic details contained in the narrative records to more general propositions which define the content of the classroom knowledge teachers use in managing activities. In traveling this distance, it is also necessary to preserve the dynamic quality of classroom processes, to keep the action moving as increasing more abstract propositions are formulated. These problems are addressed in this analysis by (a) designing a sequence of four stages--activity description, activity analysis, comparative analysis, and script

writing--each of which involves transforming the record into a more general description of classroom processes; and by (b) maintaining a focus throughout the analysis on the arrangement of events in time (see Burnett, 1973; Erickson & Shultz, 1981).

Organizing the Analysis: Planned Comparisons

Before discussing the four stages, or levels, of the analysis, it is necessary to describe the overall way in which the analysis has been organized to avoid a mindless march through the corpus of narratives. The basic structure of the analysis will consist of a series of planned comparisons between pairs of teachers selected because they exhibit certain qualities or features accessible through indicators contained in the quantitative information of the data set. The use of a comparitive approach is obviously suitable for making progressively more general statements about a phenonomena. In the present design, however, a comparative method was considered necessary to solve a problem peculiar to the narrative records when they are used to define the content of classroom knowledge.

The problem referred to here can be defined as follows. In essence the narratives contain descriptions of teachers going about the process of solving, with varying degrees of success, the problem of achieving order in classrooms. The central problem for this analysis is that descriptions of the task environment and descriptions of how the task was accomplished are intertwined in the narratives. The events being described are actually a product of an interaction between the demands of the classroom environment and the skills of a particular teacher in meeting these demands. If tasks and performance dimensions cannot be separated, then it is difficult to construct a model of the task

environment of classrooms. The effects of wide variations in student ability, for example, may be obvious in one classroom because a teacher does not have methods for handling such differences, whereas these effects may be masked in a class in which the teacher has devised appropriate ways of dealing with such variation.

The use of planned comparisons was seen as a way of untangling task and performance variables. In turn, the problem of separating these dimensions was used as a context for defining the criteria for selecting pairs of teachers. In essence the plan called for selecting contrasting cases of teachers who differed on indicators of management success but who worked with similar populations of students. Such a plan "controls" for dimensions of the task environment while performance is allowed to vary. In addition, by using both "successful" and "unsuccessful" teachers, it will be possible to study management "mistakes" which often reveal the structure of the environmental demands more clearly while, at the same time, having a picture of what a smooth performance might be. Mistakes are also useful in a cognitive sense because they often occasion a need for a teacher to attempt to "repair" the situation. Attempts to repair are often rich with information about the cognitive structures teachers use in decision-making.

The indicators of management success used in forming pairs were four scales from the component ratings (viz., student success, amount of inappropriate behavior, amount of disruptive behavior, and task-oriented climate) and ranks on academic gain. The primary population characteristic was the class mean on entering academic ability, with some attempt to have different ability levels represented in the total sample of teacher pairs. Specific information about the number of pairs selected

and the characteristics of these pairs is contained in a subsequent section on sampling and time estimates.

One other contrast theme associated with differential effectiveness in similar settings was used to select a few additional teachers from the corpus. This set consisted of teachers who changed on indicators of management success from the beginning to the end of the observation period. Here the emphasis will be on tracing the ways in which order broke down or was eventually achieved with the same students across the year.

In addition, two sets of teachers were selected in a manner which allows task dimensions to vary. The first set consists of junior high school teachers who differed on indicators of management success across different classes. In this analysis, attention is focused on how different task environments affect the same teacher. The second set consists of teachers who were high on their seatwork or whole-class presentations (content development). Activity codes from the time logs in the data set were used to select these teachers. Here the emphasis is on the character of different overall solutions to the problem of maintaining order in different task environments (at present, activity use data are readily accessible only for the JHCOS Study, so the sample is limited to junior high school teachers).

The procedures defined here for entering the corpus of narratives obviously allow for several combinations of contrast cases in addition to the original pairings. Once the original pairs have been analyzed, it will be possible, for example, to form groups of high success teachers and low success teachers for comparison, or groups of teachers of high ability and teachers of low ability students. Thus with a reasonably

manageable sample of teachers it will be possible to conduct a sizable number of primary and secondary comparisons as questions about different aspects of activity management emerge from the analysis.

In relation to the problem of isolating task and performance dimensions, the approach outlined here has two advantages. First, by controlling for student effects within comparisons, it will be possible to describe different performances within task environments which are at least nominally similar. Any differences in the task environments can then be viewed as potentially associated with or "created" by the management strategies of the teachers. Second, by systematically varying student population characteristics across comparisons, it will be possible to isolate to some degree the effects of task environments which are at least nominally different. Thus performance differences can be seen as potentially related to features of the task environment. In sum, this way of organizing the analysis separates at least partially task and performance dimensions, making it possible to describe what teachers do to accomplish classroom lessons and how these actions solve particular problems of achieving order in specific situations.

Levels of Analysis

As indicated, the analysis will proceed through four stages in which descriptions are transformed into progressively more abstract propositions about activity management. These levels, which are described in this section, are: (1) activity description; (2) activity analysis; (3) comparative analysis; and (4) script writing. The first two levels are carried out with a single teacher across all observations, describing first the configuration of events in each class meeting and then the overall configuration for the year. At level three, teachers

are first compared within pairs and then across pairs to generate more general propositions about the likely configuration of events associated with different solutions to the problem of maintaining order in classroom environments. The analysis at this level is designed to generate models of the task environment and the consequences of different "solution strategies" used in this environment. At the fourth and last level of analysis, an attempt is made to transform descriptions of what teachers do to achieve order in classrooms into propositions about what proficient practitioners are likely to know about classroom events as they go about the task of accomplishing lessons in these settings.

It is important to emphasize that, although these levels of analysis are distinct, they are not totally separate. The analysis at the first levels will obviously be done with an eye toward the requirements of the analysis at the higher levels.

Level 1: Activity description. The first level of description involves transforming the narrative records into activity descriptions. Five steps are followed in writing an activity analysis for a single meeting:

1. Read through the entire narrative.

2. Go back through the narrative to divide the meeting into natural segments and then calculate the number of minutes spent in each segment.

3. Go through each segment and write a description of (a) what the teacher and students generally did to carry out the segment and (b) any major management incidents (e.g., disruptions) that occurred during the segment. Conclude the description by devising a descriptive label for this segment.

4. Describe all transitions between segments.

5. Record any comments about major themes or patterns which seemed to be emerging from the descriptions.

Although these steps appear relatively simple on the surface, they involve several complex analytical processes. The goal of an activity description is not simply to shorten a narrative. Rather, the purpose is to transform the behavior stream depicted in the narrative record into the basic analytical unit for the analysis, namely, the activity. In Burnett's (1973) terms, "The conceptualization of activities is another reconstruction of descriptive data several logical steps removed and, therefore, at a further level of abstraction from the coordinates of the scene and the stream of action" (p. 294). This is a fundamental step in the analysis since "The concept of activity bridges the level of description involved in microevents with the level of symbolic meaning and manifest function of the culture in which the events take place" (Burnett, 1973, p. 294). Because of its central role in the analysis, the rules and procedures for writing an activity description are specified in detail below.

As indicated earlier in this document, the concept of activity refers to a mutually consitituted way in which working in a classroom is organized and directed. To identify activities in a behavior stream, four factors or dimensions are considered:

1. Differences in the patterns for arranging students, such as large group presentations of information versus independent seatwork;

2. Differences in props and resources used, such as books versus films or teacher lecture;

3. Differences in roles and responsibilities for carrying out immediate actions and events, such as a shift from answering public questions orally to writing answers to workbook exercises;

4. Differences in "rules of appropriateness" (Erickson & Shultz, 1981, p. 156) i.e., differences in the kinds of behavior which are allowed and disapproved, as in the differences between behaviors during snack time and those during silent reading.

A change in one or more of these dimensions signals a possible change in the place in which students and the teacher work, i.e., a change in activities. At this stage, brief descriptive labels are given to segments (see Appendix A for a list of such labels and their definitions) and this information is recorded in a general overview section which contains a statement of the number of segments and the number of minutes devoted to each segment. For example:

This class session consisted of four segments:

1. Introduction to spelling lesson (7 minutes)
2. Study period for spelling pretest (6 minutes)
3. Spelling pretest (9 minutes)
4. Seatwork on spelling (25 minutes)

In labeling and timing segments, it is helpful to consult the codings used by the observers in the time logs. In my experience with the narratives, I do not always agree with the observers' judgments but have found the codes useful for clarification and verification.

Once the behavior stream has been segmented, it is then necessary to describe the segments. Descriptions of segments should contain at least the following information:

1. A general characterization of the activity, focusing on the arrangement of students, the props and resources used, and the content;

2. What the participants did, with special attention to what actions the teacher used to introduce and keep a segment going and how successful these actions were in management terms, i.e., work involvement and disruptiveness;

3. Any actions by a student or several students which seemed to contribute to the ease or difficulty of keeping the activity running;

4. The extent to which the total class was incorporated into or excluded from the core actions necessary to carry out the activity (e.g., a discussion with four students in the class participating versus a recitation in which all students were required to respond).

Throughout this description of individual segments, the arrangement of events in time is preserved. Attention is also given to points of "trouble" because such occasions are often useful in revealing information about the nature of tasks and how they are accomplished.

Once a segment has been described, a short descriptive title is devised, e.g., "Lecture with textbook as a prop and inserted teacher questions." This labeling of a segment is intentionally delayed until a description has been written to prevent premature closure and to avoid letting labels carry the burden of description. In addition, an attempt is made to devise labels that are "delimited and defined according to contrasts inherent in the data themselves and not according to a priori notions of pertinent descriptive categories" (Frake, 1980, p. 19). The purpose here is to capture in brief the essential features of a segment to facilitate locating segments for comparison at other levels of analysis. But the emphasis remains on the qualitative features of segments. The general forms activities can take in classrooms are probably limited to a few types, such as whole-class presentations,

seatwork, recitation, small group work, and discussion. Yet, there is likely to be qualitative differences within general forms, and these differences are probably associated with work involvement and disruptiveness.

The identification of segments in a behavior stream also involves the locating of transitions, i.e., the junctures between segments of working. Transitions vary in character and duration depending upon a number of factors, such as the types of activities between which the transition fits. Indeed, it is often difficult to locate precise beginning and ending points for transitions (Arlin, 1979). Part of this "boundary indeterminacy" results from the redundancy of cues which signal to members of a group that "something new is happening" (Erickson & Shultz, 1981, p. 150). Thus, at the end of segments there are several indications that the event is coming to a close and a new place for working will be constituted shortly. In addition, teachers vary in the extent to which they clearly demarcate segment boundaries.

In this analysis, "transition" is a mandatory category between activities even though a change may have taken a very short period of time, as in the typical case of transitions from whole-class presentations of instructions for seatwork to seatwork itself. Each transition is then described so that this information can later be related to different types of activity segments.

There are two other mandatory categories in an activity description: namely, "opening" and "closing." These categories refer, respectively, to how the class session was started and how it was brought to an end. The opening section covers the period of time from when the students began to enter the room to the start of the first academic work. In many

cases, opening time is used to present information about procedures or announce special events. Sometimes teachers use this time to make general comments about deportment or the quality of work. The closing contains a description of how the class ended, covering the period from when the last activity is brought to a close to the time students leave the room. (The closing category is not used if the observation ended before the class session officially closed. In such cases, the absence of the closing category is simply noted.) Because openings and closings are transitional in nature, the mandatory transition category is not used between these segments and the activity segments which make up the class.

Finally, an activity description is concluded with a section devoted to comments. This section contains two general types of information: (1) A description of the context of the class session, focusing on such matters as the time of the day, the day of the week, and any school events (such as football games or assemblies) that may have influenced the actions during the session; and (2) a description of any major themes or patterns that seemed to be developing in the session or across sessions. These comments are especially useful in the analysis at the next level in which propositions about sessions across the year are formulated.

In summary, a completed activity description contains five components: (1) a general overview of the session; (2) a description of the opening of the session; (3) one or more segment descriptions with the mandatory transitions between segments; (4) a description of the way the session was closed; and (5) comments. See Appendix B for an example of an activity description for CMIS Teacher 37.

Level 2: Activity analysis. Once all class sessions for a single teacher have been analyzed, a general description of how management was accomplished in the class across the year is written. For junior high cases in which two classes of the same teacher were observed, this analysis is conducted across all sessions for a single class. This analysis provides a history of a particular classroom group for the school year. The basic analytical unit is still the activity, but the focus shifts to questions of how the segments are managed over longer periods of time and how one meeting influences and is influenced by other meetings. The purpose of this level of analysis is to transform the activity descriptions into more general propositions about the configuration of events across the year. Analyses at this level and above must deal with the problem of variations across instances for a given teacher and across teachers in the sample. Such variations are to be expected because any given task can be accomplished in a variety of ways. Battig (1975) notes, for example, that different people may use very different processes to memorize successfully a list of noun pairs and, indeed, the same individual may use different strategies for memorizing different lists. Variations are especially likely in an analysis of activities because these units are, as indicated previously, interactionally contituted.

The problem of variation will be handled in this analysis by emphasizing the functions of activities as "solutions" to the tasks of maintaining order in classroom environments. This functionalanalysis can be illustrated with respect to the management concept of monitoring. Monitoring can be defined as the gathering of information about events taking place in a classroom, and it can be argued that monitoring is

functionally necessary for the timing of teacher interventions (see Doyle, 1980). A single act of monitoring, on the other hand, would be described in terms of the teacher's position in the room, the amount of scanning across regions of the class, and the apparent targets of the teacher's watching. Obviously monitoring can be carried out in a variety of ways, i.e., several different acts can be functionally equivalent even though the particular features of these acts are quite dissimilar. The emphasis on management functions depicted in the narratives and the activity descriptions will operate at each level of abstraction in the analysis.

Two stages are involved in transforming activity descriptions into more abstract statements about activity management. The first stage consists of a quantitative summary of the activities that occurred during the year. This summary includes information about the number and distribution of observations, the types of activities and the time devoted to each type, and the types of class sessions. Attention is also given to variations in these dimensions associated with the time of the year, such as the first month of school, the Christmas holidays, or the end of the year.

This quantitative summary, focusing on the distribution of activities over the year, furnishes a general picture of the structure within which classroom management is accomplished. This picture does not, however, show much of the dynamic quality of classroom processes. The next stage of a Level 2 analysis is directed, therefore, to the description of the classroom as a moving system. Two aspects of this moving system are described: (1) the format and routines, i.e., the standard ways of doing things in the class; and (2) the strategies and

maneuvers, i.e., what the teacher did to start the activity system and keep it moving in response to changing circumstances. Attention is given, in other words, to both the common patterns and the adjustments made to accommodate novel instances or events. In describing strategies and maneuvers, information concerning the misbehavior patterns of students, the desist style of the teacher, the management of activities, and the management of the public arena of the classroom is provided. In addition, consideration is given to the arrangement of events in time and to the relations among events.

For illustrative purposes, a preliminary Level 2 analysis for Period 6 of JHCOS Teacher 22--an eighth-grade English teacher in an average ability class--is given in Appendix C. The following general patterns seem to emerge from this analysis:

1. The quantitative analysis suggests that language skills (spelling, grammar, etc.) were taught in multiple-segment sessions, that is, sessions which contained several short and clearly demarcated activities. Literature, on the other hand, tended to occur in single-segment sessions, that is, sessions consisting of a single activity and a blurring of changes in focal content. This pattern suggests differences in activities associated with content.

2. The description of format and routines indicates that there was a "settling in" period for the first month of school during which the teacher ushered activities along by making answering easy. That is, the teacher gave many explicit prompts to help students participate in and complete assignments. After this initial period, there appears to have been much less prompting and more attention to individual students.

3. The teacher seemed reluctant to react publicly to misbehavior or to single out individual students for desists. She preferred, rather, to flood the public arena with comments about the content of working and to desist only those students who would be likely to respond quickly. It appeared as if she did not want to become an audience for misbehavior or to call the group's attention to inappropriate behavior. One likely effective strategy was to reduce public attention to misbehavior and keep the activity system moving along.

In a preliminary Level 2 analysis of the first eight sessions for CMIS Teacher 37--a sixth-grade teacher in a heterogeneous class--another interesting pattern is emerging (for a sample activity description, see Appendix B). The teacher appears to have a policy of waiting for the last student to finish seatwork assignments. This produces very long endings for seatwork segments and slows down the rhythm or pacing of the sessions. Indeed it appears that the teacher is falling behind the natural "beat" of the activity flow, and the students are at times pushing the teacher to move along. This case suggests that the rhythm of classes may be associated with management.

Patterns described at Level 2 are always tentative, pending a comparison with other teachers or classes to be made at Level 3. The formulating of these patterns is necessary, however, to transform activity descriptions into more general propositions and to suggest features to look for in analyzing other cases.

Level 3: Comparative analysis. As indicated previously, all analyses in this design will be conducted within the framework of planned comparisons between two teachers selected because of particular contrast characteristics. This feature was included in part because a comparative

approach is useful in working toward general propositions and in understanding the distinctive as well as the common features of individual cases. In addition, a comparative method is seen as especially necessary in this analysis as a means for separating descriptions of task environments from descriptions of teacher performance in accomplishing a task, two dimensions which are interlaced in the narrative records themselves.

At Level 3, all comparisons will be done within the contrast themes defined earlier in this design. The first part of the analysis consists of comparisons of the two teachers selected for differential effectiveness with similar groups of students. Once all paired comparisons are finished for a grade level--junior high teachers will be kept separate from elementary teachers--then the second part of the Level 3 analysis will be conducted, namely, comparisons across pairs within themes. The Level 3 analysis terminates when comparisons within all themes are complete. Comparisons across themes are done at Level 4.

The Level 3 analysis is designed to transform Level 2 propositions about how individual teachers solve the problem of achieving and maintaining order in classrooms into more general statements about common patterns associated with managing the demands of the classroom environment. These statements should provide a reasonably complete picture of the character of classroom activities and the likely consequences associated with the use of these activities in actual situations. Because success in management and in instruction is a known quality of the teachers in the sample, it will also be possible to make statements about the patterns of activity management associated with teaching effectiveness.

For purposes of illustration, Appendix D contains a partial Level 3 analysis for JHCOS Teachers 22 and 27--teachers of average-ability classes of eighth-grade English.

Level 4: Script writing. At the final level of analysis an attempt will be made to transform statements about common patterns of activity management into an integrated model of what teachers know about accomplishing classroom events and how this knowledge is organized for use. Again, because the relative success of teachers in the sample is known, it will be possible to specify how classroom knowledge is organized for effective use. This final transformation should generate a map of the knowledge base for classroom practice, information that would be especially applicable for defining the content of teacher education.

At Level 4 attention shifts from the features of classrooms and the performance of teachers to the structure of classroom knowledge implied by descriptions of these features. Two procedures are involved in this shift. First, comparisons are made across the contrast themes which have been used at previous levels to organize the analysis. Second, activities are examined as solutions to the problem of establishing and maintaining order in classrooms, and the consequences of different solutions under different circumstances are described. In addition, the "texture" or action flow of different activities under different conditions will be described. Comparisons across teachers from these two perspectives should give some indication of what can be known about the likely configuration of events in classroom environments. Inferences can then be made concerning the knowledge structures that successful teachers are likely to use in planning and decision-making.

Summary. In this design, then, the narrative records will be analyzed in four stages which move systematically from a running account of the behavior stream to a general model of the content of classroom knowledge. The corpus will be entered by selecting, within four organizing themes, pairs of teachers who differed on specified dimensions of management effectiveness or activity use and who worked with known groups of students. Beginning with individual teachers, narratives for each class session will be transformed into activity descriptions and then general statements will be constructed to depict the management processes used by the teacher across the year. Comparisons at the next level will be made first between pairs of teachers and then among all teachers selected within an organizing theme to generate propositions about common patterns of activity management. Finally, statements about common patterns will be transformed into an integrated model of what effective teachers know about accomplishing classroom events and how this knowledge is organized for use.

Sampling and Time Estimates

There were two basic considerations associated with decisions about sampling narratives from the corpus. First, it was necessary to organize the analysis in some systematic way. As indicated, this purpose has been served by defining four contrast themes as frameworks for selecting pairs of teachers for analysis. Second, there was question of the feasibilty of analyzing the approximately 2,775 narratives in the corpus within a reasonable time period. Experience with the corpus thus far indicates that it takes approximately 2 1/2 to 3 hours to write an activity description of one narrative. If all narratives were utilized, it would

take an estimated 7,000 hours, or 875 working days, or over 3 1/2 years to complete just the first level of analysis!

In this section, procedures are described for sampling narratives to achieve a reasonable time frame for the analysis. The first major decision was to sample only from the JHCOS and the CMIS corpora for the primary analyses and to use the COS and the JMIS corpora as banks to search for verification cases once the primary analyses are completed. This decision was based on two considerations, aside from the fact that it reduces substantially the number of cases for analysis. First, the quality of the narratives in terms of the amount of descriptive detail appears to be highest in the JHCOS and CMIS studies. It is more likely, therefore, that these narratives will provide the information necessary for mapping the configuration of activities in classes. Second, Erickson and Shultz (1981, p. 157) have suggested that searching for "analogous instances" in a corpus is one way of increasing the generalizability of findings.

It was also decided to separate junior high from elementary teachers and to separate English and math teachers in the junior high corpus. The latter blocking was based on previous work which has consistently indicated that patterns of findings for junior high math and English are substantially different (Evertson, Anderson, & Brophy, Note 10; Emmer & Evertson, Note 11).

The next stage consisted of an attempt to define a feasible sample, that is, one that could be analyzed within a reasonable period of time. To define the time frame, it was estimated that an analyst could complete an analysis of one pair of teachers through the first three levels in approximately 4 to 5 weeks for junior high teachers and 3 to 4 weeks for

elementary teachers. The difference in time exists because junior high teachers were observed in two classes and thus have twice as many narratives available as elementary teachers.

Actual sampling began with the first major contrast theme: teachers who differed on indicators of management effectiveness but who worked with similar groups of students. For the JHCOS corpus, seven pairs of math teachers and seven pairs of English teachers were selected. The math sample consists of one pair who taught both a high ability class and a low ability class, one pair who taught a low ability and an average ability class, three pairs who taught average ability seventh-grade classes, and two pairs who taught average ability eighth-grade classes. The English sample consists of two pairs who worked with a low ability class, three pairs who taught average ability seventh-grade classes, and two pairs who taught average ability eighth-grade classes.

Once the 14 pairs were identified, component ratings and activity use data were searched for teachers who differed on the dimensions defined in the other three contrast themes. As it turned out, many of the teachers in the initial 14 pairs qualified for analysis under the other themes and, therefore, only a few teachers had to be added to the total sample to make these other analyses possible. For the theme of activity use, six math teachers in the initial sample were high in content development and four were high in seatwork. For English teachers, six in the initial sample were high in content development and one was high in seatwork. To complete this latter sample, two additional English teachers high in seatwork were selected. For the theme of differences for a teacher across periods, four math teachers and one English teacher were in the initial sample. Finally, for the theme of

differences from the beginning to the end of the year, two English teachers and one math teacher in the initial sample had lower management scores at the end than at the beginning of the year, and three math and two English teachers in the initial sample improved across the year. One additional English teacher was selected for inclusion in the latter category of teachers who improved. In sum, the junior high school sample consists of 31 teachers, 28 of whom were selected in the initial sample and three of whom were added to increase the sample size for specific comparisons.

For the elementary sample, seven pairs of teachers who differed on management indicators but who taught similar groups of students were selected from the CMIS corpus. There are three pairs of sixth-grade teachers, two pairs of second-grade teachers, one pair of fourth-grade teachers, and one pair consisting of a third-grade teacher and a fifth-grade teacher, both of whom taught in the same school and had 1 year of teaching experience. Of this initial sample, two teachers had lower management scores at the end than at the beginning of the year, and two improved during the year. For the latter category, one additional improvement teacher was selected from the corpus. In sum, the elementary sample consists of 15 teachers, 14 of whom were selected in the initial sample and one of whom was added to increase the sample size for the analysis of improvement across the year.

The total sample, then, consists of 46 elementary and junior high school teachers. The total number of narratives to be analyzed is approximately 1,048, or 38 percent of the total corpus of narratives contained in the four COET studies.

Figure 1 contains information about the estimated time required to complete an analysis of the narratives in this sample. As indicated, the analysis will begin with JHCOS English teachers who will be taken through the first three levels of analysis, namely, activity description (at the level of individual narratives), activity analysis (summarizing across narratives for single teachers), and the first phase of comparative analysis focusing on common patterns with end pairs of teachers. The next phase will consist of the completion of the comparative analysis across pairs for all constrast themes and an attempt to construct models of classroom knowledge. Attention will then turn to JHCOS math teachers, and the same set of analyses will be completed. The final phase of the JHCOS analysis will consist of comparisons across subject areas and a search through the JMIS corpus for cases which verify or disconfirm the original conclusions. The same set of analyses will then be conducted for the CMIS corpus of elementary teachers. It is estimated that completion of these analyses by a single analyst will take approximately 36 months.

Conclusion

The design for analyzing the narrative records contained in the COET data set can be summarized as follows. A total of 31 junior high and 15 elementary teachers have been selected from the JHCOS and the CMIS studies respectively for a series of planned comparisons around themes that separate task and performance dimensions contained in the narrative records. Quantitative data were used to enter the corpus of narratives to select teachers who differed on indicators of managerial and instructional success or on the use of different activities but who worked with known populations of students. Four levels of analysis were

defined to move systematically from the running accounts of classroom behavior in the narrative records to progressively more general propositions about what teachers do to establish order in classrooms and what proficient teachers are likely to know about classrooms and how this knowledge is organized for use in accomplishing classroom lessons. The knowledge gained from this type of analysis is viewed as a major contribution to defining the knowledge base for classroom practice and, thus, the content of teacher education and staff development programs.

Reference Notes

1. Evertson, C., Anderson, L., Emmer, E., & Clements, B. The Elementary School Classroom Organization Study: Methodology and instrumentation (R&D Rep. No. 6002). Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1980.
2. Evertson, C., Emmer, E., & Clements, B. Report of the methodology, rationale, and instrumentation of the Junior High Classroom Organization Study (R&D Rep. No. 6100). Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1980.
3. Emmer, E., Sanford, J., Evertson, C., Clements, B., & Martin, J. The Classroom Management Improvement Study: An experiment in elementary school classrooms (R&D Rep. 6050). The Research and Development Center for Teacher Education, The University of Texas at Austin, 1981.
4. Emmer, E., Sanford, J., Clements, B. The design of the Junior High Management Improvement Study (R&D Rep. No. 6150). Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1981
5. Evertson, C., Emmer, E., Clements, B., Sanford, J., Worsham, M., & Williams, E. Organizing and managing the elementary school classroom (R&D Rep. No. 6060). Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1981.
6. Emmer, E., Evertson, C., Sanford, J., Clements, B., & Worsham, M. Organizing and managing the junior high school classroom (R&D Rep. No. 6160). Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1981.

7. Worsham, M. Student accountability for written work in junior high school classes (R&D Rep. No. 6112). Austin: Reseach and Development Center for Teacher Education, The University of Texas at Austin, 1981.

8. Sanford, J., & Evertson, C. M. Time use and activities in junior high classes. Paper presented at the annual meeting of the American Educational Research Association, New York City, March 1982.

9. Sanford, J., & Evertson, C. M. Beginning the school year at a low SES junior high: Three case studies (R&D Rep. No. 6104). Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1980.

10. Evertson, C., Anderson, L., & Brophy, J. Texas Junior High School Study: Final report of process-outcome relationships (R&D Rep. No. 4061). Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1978. (ERIC Document Reproduction Service No. ED 173 744)

11. Emmer, E., & Evertson, C. Effective management at the beginning of the school year in junior high classes (R&D Rep. No. 6107). Austin: Research and Development Center for Teacher Education, The University of Texas at Austin, 1980.

References

Anderson, R. C. The notion of schemata and the educational enterprise: General discussion of the conference. In R. C. Anderson, R. J. Spiro, and W. E. Montague (Ed.), Schooling and the acquisition of knowledge. Hillsdale, New Jersey.: Lawrence Erlbaum Associates, 1977.

Arlin, M. Teacher transitions can disrupt time flow in classrooms. American Educational Research Journal, 1979, 16, 42-56.

Barker, R. G. Ecological psychology. Stanford: Stanford University Press, 1968.

Battig, W. F. Within-individual differences in "cognitive processes." In R. L. Solso (Ed.), Information processing and cognition: The Loyola symposium. Hillsdale, New Jersey.: Lawrence Erlbaum Associates, 1975.

Burnett, J. H. Event description and analysis in the microethnography of urban classrooms. In F. A. J. Ianni and E. Storey (Eds.), Cultural relevance and educational issues: Readings in anthropology and education. Boston: Little, Brown, 1973.

Clark, C., & Yinger, R. Teachers' thinking. In P. Peterson and H. Walberg (Eds.), Research on teaching. Berkeley: McCutchan Publishing Corporation, 1979.

Dawes, R. M. The mind, the model, and the task. In F. Restle, R. M. Shiffrin, N. J. Castellan, H. R. Lindman, and D. B. Pisoni (Eds.), Cognitive theory (Vol. 1). Hillsdale, New Jersey.: Lawrence Erlbaum Associates, 1975.

Doyle, W. Making managerial decisions in classrooms. In D. L. Duke (Ed.), Classroom management. 78th yearbook of the National Society for the Study of Education (Part 2). Chicago: The University of Chicago Press, 1979.

Doyle, W. Classroom management. West Lafayette, Indiana: Kappa Delta Pi, 1980.

Doyle, W. Research on classroom contexts. Journal of Teacher Education, 1981, 32(6), 3-6.

Erickson, F., & Shultz, J. When is a context? Some issues and methods in the analysis of social competence. In J. L. Green and C. Wallat (Eds.), Ethnography and language in educational settings. Norwood, New Jersey.: Ablex, 1981.

Evertson, C. Differences in instructional activities in higher- and lower-achieving junior high English and math classes. Elementary School Journal, 1982, 82, 329-350.

Evertson, C., Sanford, J., & Emmer, E. Effects of class heterogeneity in junior high school. American Educational Research Journal, 1981, 18(2), 219-232.

Frake, C. O. Cultural ecology and ethnography. In A. S. Dil (Ed.), Language and cultural description: Essays by Charles O. Frake. Stanford: Stanford University Press, 1980.

Green, J. L., & Harker, J. O. Gaining access to learning: conversational, social, and cognitive demands of group participation. L. C. Wilkinson (Ed.), Communicating in the classroom. New York Academic Press, in press.

Gump, P. V. The classroom behavior setting: Its nature and relation to student behavior (final report). Washington, D.C.: Office of Education, Bureau of Research, 1967. (ERIC Document Reproduction No. ED015515)

Kounin, J. Discipline and group management in classrooms. New York: Holt, Rinehart & Winston, 1970.

Laboratory of Comparative Human Cognition. Cognition as a residual category in anthropology. In B. J. Siegel, A. R. Beals, and S. A. Tyler (Eds.), Annual review of anthropology (Vol. 7). Palo Alto California: Annual Reviews, Inc., 1978.

Rumelhart, D. E., & Ortony, A. The representation of knowledge in memory. In R. C. Anderson, R. J. Spiro, and W. E. Montague (Eds.), Schooling and the acquisition of knowledge. Hilldale, New Jersey.: Lawrence Erlbaum Associates, 1977.

Schank, R. C., & Abelson, R. P. Scripts, plans, goals, and understanding: An inquiry into human knowledge structures. Hillsdale, New Jersey: Lawrence Erlbaum Associates, 1977.

Shavelson, R. J., & Stern, P. Research on teachers' pedagogical thoughts, judgments, decisions, and behavior. Review of Educational Reseach, 1981, 51, 455-498.

Yinger, R. J. A study of teacher planning. Elementary School Journal, 1980, 80, 107-127.

Table 1

Pearson Correlations for Class Ability Level

in Mathematics and English Classes

Activity or Time Use Category	Correlations with Mean entering CAT scores: Mathematics Classes (n = 52)	English Classes (n = 50)
Administrative/procedural routine	.0211	.1235
Transitions	-.2512	-.1696
Grading	<u>.4136</u>	.0944
Whole class instruction	<u>.2903</u>	.1056
Seatwork	<u>-.4833</u>	-.0288
Tests	.1149	.2258
Dead time	.0479	<u>-.3749</u>
Small group instruction	.0812	-.1169
Nonacademic activity	.1611	-.0470
Whole class and small group instruction	<u>.3058</u>	.0605
Total academic time	-.1749	.1511

Significance at $p \leq .05$ indicated by underline.

Phase 1: 5/1/82 to 12/31/82	Phase 2: 1/1/83 to 3/31/83	Phase 3: 4/1/83 to 11/30/83
JHCOS English sample	JHCOS English sample	JHCOS Math sample
Levels 1 through 3	Levels 3 and 4	Levels 1 through 3
Phase 4: 12/1/83 to 2/28/84	**Phase 5: 3/1/84 to 5/31/84**	**Phase 6: 6/1/84 to 12/31/84**
JHCOS math sample	JHCOS sample	CMIS sample
Levels 3 and 4	Comparisons across subject matter	Levels 1 though 3
	Search through JMIS corpus	
Phase 7: 1/1/85 to 4/30/85		
CMIS sample		
Levels 3 and 4		
Search through COS corpus		

Figure 1. Schedule and Time Estimates for Analyzing Narratives

Appendix A

Preliminary Activity Labels

Preliminary Activity Labels

1. LECTURE -- An activity in which the teacher is presenting information to the class. The teacher is the central focus. The content may be academic or procedural (e.g., how to do headings on papers). Lecture segments are only loosely coupled to a specific seatwork activity, that is, the information is intended for several seatwork assignments or is not immediately tied to any specific seatwork segment. Lectures can be accompanied by various props, such as overhead projectors or chalkboards. Films are considered to be lectures because of similarities in organizational patterns. Teachers can also use textbooks as props by having students read along in the text as the teacher talks. In addition, teachers sometimes insert questions into lecture segments, but the purpose is not to evaluate student comprehension or to discuss the topic. Inserts often appear to be used for variety or signaling individual students to pay attention. For example, a teacher can call a class's attention to the spelling book and ask what the title is and then call on a student to answer. This is not recitation or discussion, but an inserted question in a lecture. If this practice is characteristic of a lecture, then a note is made of this in labeling the activity. There would appear to be at least two types of lectures: (1) a presentation of content that students need to know, e.g., the history of English language; (2) content development in the sense of information about content that is needed to complete an assignment but is more than simply directions for the exercise.

2. INTRODUCTION TO SEATWORK -- An activity in which the teacher is presenting information for a specific seatwork segment which follows immediately. This segment can range from directions for doing the exercise (e.g., "Do problems 1 to 7 and 12 to 15") to content development (e.g., a teacher gives example problems and walks the students through them). When content development extends to serving purposes other than the immediate seatwork assignment, then this segment becomes a lecture (see 1 above).
3. RECITATION -- An activity in which the teacher systematically samples student knowledge or skill with a particular exercise or assignment. There has to be more than one inserted question in a content presentation or lecture to qualify as a recitation. Typically, recitation involves a kind of "oral seatwork" in which the teacher has students tell answers to textbook exercises or problems. In recitation there is a clear emphasis on having students use prior knowledge or skills.
4. DISCUSSION -- An activity in which the primary if not exclusive mode of communication is teacher questions and student responses. A minimal emphasis is placed on memory or prior skill and greater emphasis is on understanding or opinions.
5. SMALL GROUP -- An activity in which students are divided into groups of at least two to accomplish work.

6. SEATWORK — An activity in which students work independently at their desks to complete assignments or exercises. Seatwork can involve consultation among students but the product is at an individual level, that is, each student must produce an individual product. In describing seatwork it is necessary to note the actions of the teacher at the beginning of the segment (i.e., where the teacher is focusing attention, etc.).

7. CHECKING — An activity in which student correct their own or others' work that has been completed previously either in a seatwork segment or homework. The teacher often leads this activity and calls on students to supply answers. As a result checking is like recitation except that students have had time previously to record their answers.

8. OPENING AND CLOSING — Mandatory categories for describing how the teacher starts a class session and ends a session.

9. TRANSITIONS — Not strictly speaking an activity but rather a segment between activities. This is a mandatory category between segments. The beginning and ending of transitions are sometimes difficult to distinguish and particular attention is given to "flip-flops" in which a teacher starts the next activity and then returns to either the previous activity or the transition.

Appendix B

Activity Description for CMIS Teacher 37

Activity Description

CMIS 37, 10/3/80 (Friday), 020, AM, 23 students

There were 12 segments from 7:55 to 10:11:

1. Opening (3 Minutes)
2. Handwriting practice, with announcements (8)
3. Passing back work (5)
4. Multiplication test (2)
5. Checking test (3)
6. Lecture on Math (6)
7. Oral recitation/introduction to assignment (10)
8. Math assignment (17)
9. Oral reports about animals (39)
10. Film about animals (18)
11. Discussion of film (2)
12. Snack time (5; end of observation)

No Closing segment because observation ends before the session ends. Apparently a soccer game follows snack time.

1. Opening (7:55 to 7:58)

T has a list of endangered species on the board (Ref: 9-19-80). As students enter at the bell, T in hall. Students talk about soccer game, fight outside. T enters and talks to some students in front of the room as others put things away, take chairs down, etc. The noise subsides as T talks to one student.

2. Handwriting Practice With Announcements (7:58 to 8:06)

T tells students to come to order and begin handwriting assignment written on the board. Some students mill around. T tells them to copy the list of animals (endangered species) twice. One student asks if they

can use a pen, T says no because they are still on pencil. T passes out papers as students visit or begin to work. T begins to desist individuals, successfully. At 8:01, T tells students they need to talk about language arts; no language arts today because of the soccer game. They will have math, however. Other questions about the soccer game are taken now. Then T comments on the assignment (presumably handwriting) and takes questions about a film coming up that day. Then T talks about lemmings and some students join with comments. The end, T tells students to take down extra chairs for the absent students. (O notes that handraising rule is not always enforced.)

Activity: Seatwork with announcements, some discussion.

Transition: (8:06 to 8:08)

T announces that it is time to go to math; they switch for math and language arts. T goes to the door; most students get up to leave, another group is waiting in the hall. As new group enters, T tells them to put work in trays, repeats instructions. Students enter quietly and follow directions. T takes some callout questions.

3. Passing back work (8:08 to 8:13)

T comments on homework and when the papers were due. Then comments on grading and extra credit. Then she passes out papers (graded homework). As she does this, she comments on individual student's papers. Comments are generally positive.

Activity: Passing back assignments with feedback.

Transition: (8:13 to 8:15)

T tells them to take out paper and number it 1 to 25. Students ask if this is a math test; T says, "Yes." T hurrys them along. Students clear their desks. Room is quiet; T waits for students to get ready. T

tells them to put headings on papers. Lets one student sharpen a pencil.

4. Multiplication Test (8:15 to 8:17)

T asks if students are ready (one answer) and gives directions: Will call out fact twice, they write answer only. If they don't know the answer, they are to go on to the next one; keep eyes on own paper; and keep papers covered. Then T calls out facts "fairly rapidly" (T is finished in about 1 minute).

Activity: Test, questions presented orally.

Transition: (8:17 to 8:18)

T tells them to stop writing, exchange papers. Desists several students who are still writing.

5. Checking Test (8:18 to 8:21)

T calls out answers rapidly, some questions and confusion from students. She helps them compute the grade. Apparently calls for grades. Tells students to put grades on papers, show to owner, and pass to end of the row to students whose names she designates.

Activity: Checking.

Transition: (8:21 to 8:22)

T tells students to open math books to page 32. Students get things out quietly. T goes to front and encourages students to get books out and open. T tells them not to start even their headings until she gives directions.

6. Lecture on Math Content (8:22 to 8:28)

T tells them they are doing well in multiplying with one digit and two digits with zero. Now they are going to two digits. They will continue to practice. T does sample problem (58 x 30) and shows a short

cut method. Students attend. During a second example, T accepts a called out question; when another student comments to a boy who asked the question, T goes on to another example. Finally, T starts an example and has them do it with her, that is, choral responses as she goes through the problem on the board.

Activity: Lecture on math with content development.

Transition: (Immediate)

7. Oral Recitation/Introduction to Assignment (8:28 to 8:38)

T directs students to a page in the book, problems they are going to do. T calls for volunteers to go to the board to work some of these problems; tells those at the desk to get scratch paper and practice along. T calls students to the board; takes private contact questions. T comments that Issac is first to finish at the board, tells others to continue working. T sends three students from the board back to their seats and spends about 1 minute helping Debbie at the board as other students sit idle. Then T sends another group to the board. T calls on volunteers and nonvolunteers. Again, T spends time at the end of working on this problem helping students at the board who are have difficulties; other students sit idle, talking quietly. T finishes segment helping students who have difficulty.

Activity: Oral recitation/boardwork, used as introduction to assignment.

Transition: (8:38 to 8:40)

T tells students to head papers; pauses, student asks what problems, T says she will tell them. (Again, students appear to drive the lesson.) T writes page number and problems due on the board. Students sharpen pencils and get ready to work.

8. Math Assignment (8:40 to 8:57)

Students begin working. T takes call out question, moves to student to help her. T takes another student question: Gives a student permission to go to the bathroom. Then T circulates, observing students' work, commenting and helping them. Victor raises his hand, T doesn't notice, then does and tells him she will get to him when she finishes her rounds. After a brief moment, she moves on to Victor. She comments to him about number 15 and then calls the class's attention to this problem. This action breaks the flow and she puts the problem on the board (56 x 980). T demonstrates using the short cut rule. When T gets the answer, a student says, "It is wrong;" T works through the problem again, corrects it. T comments that working at the board you can see you errors; asks a student to verify, then check manual and declares the answer correct. Students return to work. Episode takes 4 minutes. Students begin to finish at 8:56. T leaves the room for 1 minute, students talk.

Activity: Seatwork with inserted demonstration.

Transition (8:57 to 9:06)

T tells students to finish problems at home or in class later and bring them to her on Monday. Students begin to rush for the door; T calls out names of students she must see for a little while now. Students leave. Some turn papers in. T tells those in the hall to wait; tells the eight remaining students that they are being moved because of their skill (moving on to another math group). T tells them who they are to go to next time. Those in hall ask to come in, T ignores and continues giving room assignments to those in the room. At 9:00, T lets those in the hall enter; they are noisy. T talks to individuals as they

enter. T announces who will be in the soccer game as player; this announcement causes an uproar. T desists gumchewing. At 9:03, T announces film. Then she talks to another teacher at the door. Students are goofing off. T comes back in and asks whose turn it is (apparently for oral report); T calls on Adam. Students complain about not wanting to do reports; T stops them quickly; T comments at length about reports, citing good features of those given thusfar. T tells them she will accept late papers but deduct points. She then calls attention to Anthony.

9. Oral Reports on Animals (9:06 to 9:45)

Adam begins report. Shows drawing of animal (one student claps, T desists), and then reads report. Another T comes to door and they confer, distracting attention away from the report as the student goes on reading. T returns, comments on the quality of the report, and tells class she likes reports because they are in their own words. Next report is given. Observer notes students are quiet and attentive. The end of the next report, T comments on the report. T asks who is next. Some discussion (apparently two girls are keeping track for the T). Next student gives report; at the end, T leaves the room for 1 minute, students talk. Some talk to the student who gave the report about her report. T returns, talks to a student she calls up to the door (this student said earlier that she did not have shorts to play in the soccer game; apparently T tried to work this out). T returns to the class, apologizes for the interruptions; comments that it is a circus today. T then comments that she knows there is a soccer game today but it is 1 hour away so calm down. "We need to get more reports and we have had lots of interruptions." Next student up at 9:18. T comments at the end,

positive, asks a student to read her poem (T has apparently read the reports and wants the student to read a poem she has written); student declines and T allows this refusal. Next student, some delay, then starts, T desists the whole group and then Adam. Student reads report. Students begin coming back from orchestra. Next report at 9:25, but T talks to three students at her desk and other students talk to each other which elicits a whole class desist. Desist is successful. The girl in charge for the T calls on Penny, T says Penny has talked to her and will do her report later. Next student at 9:30. T asks student to show a picture; student declines, T allows. Edward does his report with some comments. At 9:35 T says one more report then the film; several students call out about who will help out with the film. T settles it by selecting two students who go to the projector at this point. T threatens some students about not going to the soccer game in an attempt to restore order. Next student starts, pauses to wait for attention, T threatens again, begins to desist individuals. After 2 minutes, student starts report. Students are now quiet. Next student gets up, T says this is the last one. T goes to the door and has conference with a disruptive student; student giving report waits. T ends the conference and confiscates an airplane. Class finally quiet at 9:42; student does report. Janitor comes in during the report and starts to clean the sink.

Activity: Student reports.

Transition: (9:45 to 9:46)

T comments on last report and switches to the film they will see; same content: animals. One of the series they have been seeing from Walt Disney. T tells them to move where they can see. Desists a student

for having something in his hand. Other students have things out on their desks, such as airplanes, etc.

10. Film (9:46 yo 10:04)

Film begins. It is about bears. T at desk grading papers, students attend. T allows some mild callouts and comments during the film. During the last minute, another teacher comes in; T and the other teacher talk to Danny, and other teacher leaves.

Activity code: Lecture, film as information source.

Transition: Immediate.

11. Discussion of film. (10:04 to 10:06)

Students clap at the end of the film. T makes comment about the quality of the film. Discussion focuses on preserving endangered species (this point was pushed by the T on 9/19). T asks about what responsibilities should be, and what can be done to preserve animals. T gets answers apparently from volunteers. T cites international whaling law, already studied by the class, and comments on this law. T asks what else can be done; students answer hunting. T comments more about preserving species. Observer notes some giggling but high attention. This segment lasts 2 minutes.

Transition: Immediate.

12. Snack time. (10:06 to 10:11)

T announces snack time. Students mill around, go for drinks, etc. (Similar to other snack times.) T apparently standing at front talking to a small group of students and to individuals.

End of observation; no closing segment because session was not over.

Comments:

1. Transitions: Lots of short segments today. Most transitions are short, except when student groups change for math. This is a somewhat chaotic day: a Friday before a soccer game. T has many interruptions from other teachers; has to leave the room. Apparently these interruptions are to arrange for the soccer game.
2. Teacher shows waiting pattern that drags activities during the board problems at 8:2[illegible]. She works with those who are having problems while the others stand and wait for the next problem.
3. The handwriting practice segment in the beginning is ragged, drifts into a discussion. In other words, the announcement function of this segment dominates the practice function.
4. The lecture at Activity 6 (8:22) is clearly content development.
5. The first hour is very productive in terms of the work schedule. Perhaps the T anticipated problems later with the soccer game and tried to get as much done as possible in the beginning.

SCORES:

SER: Stayed at 100 percent except for dead times at 8:33 and 8:48 (oral recitation and seatwork).

CR: Success (4), disrupt (2), inappropriate (2), and tasks (3).

Appendix C

Activity Analysis for JHCOS Teacher 22, Period 6

Activity Analysis for JHCOS Teacher 22, Period 6

Structural Features of Activities

The first step in an activity analysis consists of a quantitative summary of the activities that occurred during the year in a given period.

Number and distribution of observations. Period 6 of Teacher 22 was observed 14 times during the school year. Four of these observations came during the first 2 weeks of school, six during the first month, and nine during the first semester. Two observations were made in January and one each in February, March, and April. Observations by days of the week were as follows:

Monday = two

Tuesday = four

Wednesday = two

Thursday = two

Friday = four

No Mondays were observed during the first semester.

Types of activities. Information concerning types of activities in Period 6, Teacher 22 is given in Table A. Seatwork (coded to include instructions and closings) occupied approximately 60 percent of the observed time in this period. Seatwork segments were also typically the longest segments. The average seatwork segment lasted for approximately 20 minutes with a range from 3 to 48 minutes. Thirteen of the 21 seatwork segments observed were over 10 minutes in length and eight of the 21 were over 25 minutes.

Nine lecture segments were observed, accounting for approximately 18 percent of the observed time. The average lecture was about 15

minutes long, with a range from 6 to 41 minutes. Six of the nine lecture segments were 10 minutes or less in length. With one exception, lecture segments were bounded by seatwork. Approximately five percent of the time was spent in oral review of exercises or tests, and the average length of these seven segments was about 5 minutes. Two library trips, one of 20 minutes and one of 28 minutes, accounted for about seven percent of the observed time. Finally, approximately 10 percent of the time was spent in openings of meetings, closings of meetings, and transitions between activities. Closings were the longest segments in this catagory in part because Period 6, as the last period of the day, had to be stopped early for announcements from the principal's office. Openings and transitions were typically short (less than 1 minute) and often no transition time was recorded.

No segment that could be called "discussion" was observed.

Types of meetings. Meetings could be divided into two broad catagories: (1) Those involving multiple segments and (2) those involving a single, long segment (see Table B). In multiple segment meetings, there was more than one type of activity and differences were often a matter of work organization rather than focal content. In addition, segments were distinct and clearly separated: They had a definite beginning and end externally paced by the teacher. There was also clear transitions between segments. For example, on 9/5/78, the meeting consisted of a writing exercise, a lecture on the development of the English language, and seatwork using the dictionary. On 1/26/79, the meeting consisted of nine segments: a lecture on group forms, of seatwork exercise, a whole-class oral review of the exercise, a seatwork

exercise, an oral review of the exercise, a lecture on verb forms, a seatwork exercise, an oral review of the exercise, and a test.

Single segment meetings were characterized by one type of work organization (lecture, seatwork) although changes sometimes occurred in focal content. In addition, if more than one type of focal content was used, the transitions were blurred (i.e., segments tended to blend together) and the decision to change focal content was made individually by students. For example, the meeting on 8/30/78 consisted of 47 minutes of seatwork on dictionary skills. The meeting on 9/8/78 consisted of seatwork related to a story about Lou Gehrig in the literature book. In the latter instance, students worked on vocabulary words and read the story, but the timing of the change in focal content was a matter of individual choice.

A comparison of multiple and single segment meetings suggests the following. Seven meetings could be classified as involving multiple segments. Of these, two occured on Tuesday, two on Wednesday, two on Thursday, and one on Friday. There was some tendency, therefore, for multiple segment meetings to occur at the beginning or end of the week and for single segment meetings to occur during the middle of the week. There was no clear pattern for time of the year. Four multiple segment sessions occured during the first semester and three during the second semester. For single segment meetings, five occurred during the first semester and two during the second semester. (It must be remembered that nine of the 14 observations were made during the first semester.)

The content of multiple segment meetings tended to be language skills: spelling, grammar, writing, filling out forms. Five of the seven multiple segment meetings involved such content. Two of the

multiple segment meetings involved visits to the library, and both of these occurred on a Friday during the first semester. The content of four single segment classes consisted of literature and three consisted of language skills (grammar and dictionary use). In these data, spelling did not occur in a single segment meeting. There would seem, then, to be a weak tendency for literature to occur in single segment meetings and language skills, especially spelling, to occur in multiple segment meetings.

There are two factors influencing these data. First, two multiple segment meetings occurred on Fridays and involved visits of about 20 minutes to the library. Library visits that do not last an entire period would necessarily produce some multiple segment sessions. Second, one single segment meeting involving grammar consisted of a test which the teacher graded during the meeting and handed back. This format tended to blur transitions between segments.

A quantitative analysis gives a perspective on the distribution of activities in a period over the school year. As such it furnishes a general picture of the structure within which classroom management was accomplished. This picture does not, however, show much about the dynamic character of classroom life. The remaining sessions of the Level 2 analysis are directed to the problem of describing the classroom as a moving system.

Format and Routines

This section contains an analysis of standard ways of doing things in this class, i.e., procedures for putting activities into operation. For this analysis, the activity descriptions were divided into two sets:

(1) the first month and (2) the rest of the year. Because of their prominence in the period, seatwork segments are analyzed first.

Seatwork. Seatwork segments typically began with a brief and sometimes ambiguous introduction. The teacher then announced that she was available for help and began circulating around the room answering questions. She went to those who raised their hands, but she also accepted callout questions. The teacher provided very explicit prompts when helping individual students and often did what Lundgren (1977) calls "piloting," i.e., guiding a student through a task until the teacher answers the question or solves the problem. This heavy prompting was especially apparent in the beginning of the year but during the second semester prompting faded and greater emphasis was placed on having students do their own work.

When working with individual students during seatwork, the teacher often made private contacts public. That is, the teacher talked loud enough to an individual student so that the rest of the class could hear. This tendency to make private contacts public was especially apparent in the first month. This practice bothered the observer, but it was not always clear that the students paid any attention to these "public" private contacts.

Work completed during seatwork was sometimes collected, but most often it was filed in folders that the students kept.

The teacher seemed to have backup tasks for students who finished early. These tasks included having the students get a magazine to read, handing out newspapers, letting students get bookcovers to put on their books, or letting them run errands. Finishing early tended to occur most often during the first month.

The teacher used an interesting format for grading spelling tests. After a spelling test was given and collected, the teacher graded the test herself, recorded the grades (during which time she often made a few public comments about the quality of some papers, both high and low), and then handed the papers back. She became very engrossed in grading the papers and worked hard to finish before the period was over. On one occasion this was done during a meeting that took place right before a football game. While the teacher was grading the papers, no work was assigned to the students. It was nearly a "no activity" segment, yet the students did not become disruptive.

On at least three occasions (8/30/78, 11/8/78, and 2/13/79) a curious interlude occurred during seatwork at about 15 minutes before the end of the period. This event began with either a rise in student-to-student talking or a student-initiated public question to the teacher. It continued as a public interchange between the teacher and several students and then gradually diminished as students returned to work. At the moment it not clear what this event means.

Lecture. Lecture segments in Period 6 were typically short and bounded. If the 41 segment on folklore (4/17/79) is omitted, the average length of a lecture was approximately 11 minutes. Also, except for the folklore case, lectures were surrounded by seatwork segments. Questions were occasionally inserted into lectures. These questions were usually answered by volunteers and/or call outs, and only one or two students answered a single question.

Lecture was the second most frequent segment and accounted for approximately 18 percent of the observed time. Yet the lecture seemed to a temporary format for conducting meetings. Lectures did not carry the

main burden of instruction and there seemed to be little attempt to sustain this activity structure over long periods of time. It is perhaps significant that the longest lecture segment did not appear until April 1 presumably activity "failures" at this point would not have consequences for the entire year.

Most information dispensed in this class was done during introduction to seatwork segments. In other words, information was given in order that students could complete exercises in the textbook or on worksheets

Going over assignments. About five percent of the observed time was spent going over exercises and other assignments that the students had completed. In these activities, attention was focused on an exercise and the teacher led students through the material by reading each item and then pausing for students to supply answers. Answering was usually done by choral responding or by call outs. The teacher then confirmed correct answers. In these activities, students corrected their own work. Corrected papers were usually filed in folders that the students kept.

General. There were some routines that were not directly related to activity segments. Three of these are described briefly for illustrative purposes.

Textbooks were not distributed to the students during the first week but were held back by the teacher. Initially, the teacher apparently placed the books under the desks for the students' use during class. After books had been distributed to the students, the teacher had some trouble getting some students to bring books to class (e.g., 9/14/78). Throughout the year the teacher frequently spent the time before the

start of a meeting reminding students coming in the room to have their books with them.

There was no strict enforcement of the rules about coming late to class, moving around the room to sharpen pencils or throw paper away, gum chewing, and private talking during seatwork. Similarly, callout comments were often accepted by the teacher during all activities, even tests.

Closings for this class were fairly standardized. Because this was the last period of the day, announcements from the principal's office were made before dismissal. This was always somewhat of a guessing game because the exact time of the announcements varied. A few minutes before announcements, the teacher typically stopped the activity and directed students to gather up their materials and clean up around their desks. The amount of student talking during closing varied across meetings, but there was usually some talking. The teacher often used the time before announcements to make comments about upcoming assignments, etc. Students were told to remain quiet during assignments and usually did. Students were dismissed by the bell rather than by the teacher.

One final note is in order concerning formats and routines. On 10/10/78, I had the impression that equilibrium had been reached: There was a "settling in" to activities, and a functional level of operation seems to have been reached. Although there was some variation over the rest of the year, the basic format for this period was fairly well established by the end of the first month. If I would have been asked to intervene to change anything going on in this class by 10/10/78 or later (the observer would certainly have liked to have intervened), I am not certain where I would have begun.

Strategies and Maneuvers

Comments in this section are organized around four areas: (1) the misbehavior patterns of students; (2) the desist style of the teacher; (3) the management of activities; and (4) the management of the public arena.

Misbehavior patterns of students. Overall the level of cooperation was high for this class. The most common form of "misbehavior" was private talking during seatwork or in closing segments. The observer also noted some signs of restlessness and boredom at the end of segments, especially seatwork at the end of individual meetings. Much of this "off activity" behavior during the first month was instigated by students seated in the center of the room. At times, students entered the room before the bell making noise and running around.

The most serious misbehavior consisted of mocking the teacher (i.e., repeating teacher comments or desists), calling out comments to the teacher while she was introducing seatwork, and assuming teacher prerogatives (e.g., telling the class to be quiet or going to the teacher's podium to read her notes). There was a distinctive character to these instances, however. First, they were typically from a single source. Seldom did a group of students instigate a serious incident. Second, there was very little spread of effect. It was rare that other students would join in a serious incident of misbehavior. Finally, there was little audience for most incidents. Other students in the room did not appear to watch or encourage initiators. The overall effect was that initiators were often isolated from the rest of the group. (This isolation did not prevail in Period 4 for Teacher 22, and the consequences were quite different.)

There was very little misbehavior in the first class session. Initiations of misbehavior gradually increased in later meetings but tended to decline by the time equilibrium was established at 10/10/78. This pattern corresponds to the generalized curve of misbehavior developed by Doyle (1979).

Teacher's desist style. During the first month, the teacher attempted to desist misbehavior by making whole-class comments, such as, "Stop talking," etc.; glaring without comment at a single student or small group of students; repeating instructions to open books to specific pages, etc.; and moving toward a target student. Initially the teacher seemed reluctant to single out individual students. Indeed, she seemed most often to ignore misbehavior if at all possible. When the teacher did single out a student, he or she tended to be "wrong" target, that is, a student who was not the instigator of an incident or one who typically did not initiate. The tendency to desist the "wrong" target and to ignore misbehavior except when forced to react led the observer to label the teacher as inconsistent and unfair.

After the first month the teacher began to use punishments for some misbehavior, e.g., coming to class late and major disruptions of an activity. Punishments apparently consisted of either writing sentences ("I will not talk in class.") or staying after school. There is some evidence that it was possible to negotiate after class with the teacher to get out of a punishment (for an example see 10/19/78). The use of punishments meant that the teacher had begun to single out individual students for misbehavior.

Activity management. Especially during the first month, the teacher was very active in the classroom. Seatwork was the most common activity.

In getting seatwork started, the teacher typically gave short introductions and then began to circulate rapidly around the room answering questions. There was a clear sense that the teacher was hovering over the activity and ushering it along. Prompting was heavy and continuous, often resulting in the teacher giving the answers to students. Other activities were conducted in a similar manner in that the teacher did not turn initiative over to students. Again, it can be noted that hovering seemed to decrease after the first month.

Managing the public arena. Much to the observer's irritation, the teacher often made private contacts public by the loudness of her comments. The teacher seemed to be continuously talking about the focal content of activities, especially during the first month.

References

Doyle, W. Making managerial decisions in classrooms. In D. L. Duke (Ed.), Classroom management. 78th yearbook of the National Society for the Study of Education (Part 2). Chicago: The University of Chicago Press, 1979.

Lundgren, U. P. Model analysis of pedagogical processes. Studies in curriculum theory and cultural reproduction, Vol. 2. Stockholm: Institute of Education, Department of Educational Research, 1977.

Table A

Types and duration (in minutes) of activities

	Seatwork	Lecture	Going over assignments	Library	Other*
	47	18	13	20	2
	48	41	10	28	4
	40	7	2		2
	31	7	1		7
	17	9	1		1
	11	8	8		9
	15	26	3		2
	46	10			2
	34	6			5
	36				1
	6				4
	9				5
	25				4
	9				6
	3				4
	5				3
	10				4
	4				2
	9				5
	10				
	9				
Total minutes	424	132	38	48	72
Average length	20.19	14.67	5.43	24	3.79
% of total time observed	59.38%	18.49%	5.32%	6.72%	10.08%
Total number of segments (N=58)	21	9	7	2	19

*Includes start of meetings, close of meetings, and transitions that were at least one minute long.

Table B

Types of meetings, date of occurrence, day of week, and focal content

Type of Meeting	Date	Day of Week	Focal Content
Single segment:	8/30/78	Wed	dictionary skills
	9/8/78	Fri	biography
	9/14/78	Thurs	grammar
	10/19/78	Thurs	story
	11/8/78	Wed	grammar
	2/3/79	Tues	literature
	4/17/79	Tues	folklore
Multiple segment:	9/1/78	Fri	library/reading
	9/5/78	Tues	writing/language history/dictionary
	9/29/78	Fri	library/spelling test and assignment
	10/10/78	Tues	6 grammar segments
	1/15/79	Mon	3 segments on personnel forms
	1/26/79	Fri	9 grammar segments
	3/19/79	Mon	4 spelling segments

Appendix D

Comparative Analysis

JHCOS Teachers 22 and 27

Comparative Analysis: JHCOS Teachers 22 and 27

There would seem to be a pattern that runs through the description of strategies and maneuvers for Teacher 22 in Period 6. The teacher ignored misbehavior and was reluctant to single out individual students. As a result, the teacher avoided public confrontations over conduct. The teacher did not become, in other words, an audience for misbehavior. In addition, by catching the "wrong" target (i.e., those students who tended not to misbehave), the teacher kept hesitant students from joining the instigators and desisted those who were least likely to perpetrate a public confrontation. This strategy would seem to remove misbehavior from the public arena of the classroom.

While this desist pattern was operating, the teacher concentrated on getting activities installed and in filling public talk with subject matter content. By hovering over the activities and by avoiding, at some cost, public confrontations over conduct, the teacher was able eventually to get activities moving. Once activities were installed, they carried the burden of class meetings, and the teacher began to decrease prompting and increase desists directed to individual targets in the high misbehavior group.

I am encouraged in this interpretation of the teacher's management style by two factors. First, in Period 4 Teacher 22, the pattern was even more apparent. In this class, the teacher faced a group of misbehaving students who readily linked together and attracted an audience among other students. Thus, a spread of effect for misbehavior was more likely. This delayed somewhat the installation of activities and required that the teacher work harded to isolate the misbehaving group from the rest of the class. Second, Teacner 27 seemed to follow a

similar pattern. Clearly there was less misbehavior in Teacher 27's class, but still there was a clear concentration on getting activities going and on managing the content of the public arena. To do these things, Teacher 27 often refused to be distracted by events that might either disrupt an activity or define the content of public talk in any terms other than subject matter. There was also a tendency for Teacher 27 to schedule "high risk" activities (e.g., a writing assignment or outlining from the book) late in the year. I had a sense that this scheduling strategy was a good way of avoiding the consequences of an activity failure for an entire year.

There are obviously several other factors to consider at this level of analysis. The substance of activities, that is, what students have to do in order to participate in an activity, appears to change systematically over the year. There was also a clear sign that accountability differed across teachers and would seem to have some consequences for cooperation and activities. Teacher 22 was especially vague about accountability, a factor which often seemed to reduce risk. Teacher 27, on the other hand, was very clear about accountability, especially in the beginning of the year. Finally, despite some obvious differences in the styles of the two teacher involved in this comparison, there is considerable similarity across classes in the basic structure of events.